Attorney Docket: 051501-0305443

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re PATENT APPLICATION of: MICHAEL CROFT, ET AL.	Confirmation Number: 6765
Application No.: 10/661,358	Group Art Unit: 1644
Filed: September 11, 2003	Examiner: Ouspenski, Ilia

Title: METHODS OF TREATING OX40 MEDIATED RECALL IMMUNE RESPONSES AND AGENTS USEFUL FOR IDENTIFYING SAME

RESPONSE TO OFFICE ACTION

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the Office Action mailed January 8, 2007, in connection with the above-identified application, the time for responding having been extended to July 9, 2007 (July 8, 2007 fell on a Sunday), by the accompanying fee and petition under 37 C.F.R. §1.136, Applicants respectfully request consideration of the following amendments and remarks:

The **Claims** begin at **page 2**.

The **Remarks** begin at **page 11**.

A **Supplemental Declaration under 37 C.F.R. §1.131, Exhibits A-G and Information Disclosure Statement** immediately follow this paper.

Petition for Extension of Time:

Applicant hereby petitions for an extension of time to extend the time period for reply from April 8, 2007 to July 9, 2007. The Commissioner is authorized to charge Deposit Account 033975, Order No. 051501-0305443, for the requisite extension fee and any other fees due in connection with this submission.

IN THE CLAIMS:

Please cancel claims 4, 74 and 76 without prejudice. Please amend the claims as follows:

1. (Currently Amended) A method of reducing or inhibiting a recall immune response in pulmonary tissue, respiratory tract, spleen, lymph node or lymph vessel of a mammalian subject, comprising administering an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit a recall immune response in the pulmonary tissue, respiratory tract, spleen, lymph node or lymph vessel of the mammalian subject.
2. (Previously Presented) The method of claim 1, wherein said immune response is mediated at least in part by OX40 or OX40 ligand (OX40L).
3. (Previously Presented) The method of claim 1, wherein the recall response is a secondary, tertiary or subsequent immune response to an antigen.

4.-5. (Cancel)

6. (Previously Presented) The method of claim 1, wherein the mammalian subject is a human.
7. (Previously Presented) The method of claim 1, wherein the mammalian subject has one or more symptoms of asthma.

8.-9. (Cancel)

10. (Withdrawn) The method of claim 9, wherein the modified OX40 or OX40L comprises a subsequence, variant sequence, chimeric sequence or dominant negative sequence.
11. (Previously Presented) The method of claim 1, wherein the antibody that specifically binds to OX40L comprises a human or humanized antibody.
12. (Withdrawn) The method of claim 1, wherein the agent comprises an antisense nucleic acid molecule or RNAi that binds to OX40 or OX40L DNA or RNA.
13. (Withdrawn) The method of claim 1, wherein the agent comprises a cytokine.
14. (Withdrawn) The method of claim 13, wherein the cytokine comprises IL-10.
15. (Currently Amended) A method of alleviating or ameliorating a symptom associated with a secondary or subsequent immune response to an antigen in pulmonary tissue, respiratory tract, spleen, lymph node or vessel, or skin of a mammalian subject,

comprising administering an amount of an antibody that specifically binds to OX40L sufficient to alleviate or ameliorate the symptom in the pulmonary tissue, respiratory tract, spleen, lymph node or vessel, or skin of the mammalian subject.

16. (Currently Amended) A method of alleviating or ameliorating a symptom in pulmonary tissue or respiratory tract associated with a secondary or subsequent immune response to an antigen of a mammalian subject~~, wherein said response is mediated at least in part by OX40 signaling,~~ comprising administering an amount of an antibody that specifically binds to OX40L to alleviate or ameliorate the symptom in the pulmonary tissue or respiratory tract of the mammalian subject.
17. (Previously Presented) The method of claims 15 or 16, wherein the immune response comprises an OX40 mediated T cell response.
18. (Previously Presented) The method of claim 17, wherein the OX40 mediated T cell response contributes to inflammation.
19.-20. (Cancel)
21. (Withdrawn) The method of claim 20, wherein the modified OX40 or OX40L comprises a subsequence, variant sequence, chimeric sequence or dominant negative sequence.
22. (Withdrawn) The method of claims 15 or 16, wherein the agent comprises an antisense nucleic acid molecule or RNAi that binds to OX40 or OX40L DNA or RNA.
23. (Previously Presented) The method of claims 15 or 16, wherein the symptom is associated with asthma.
24. (Previously Presented) The method of claims 15 or 16, wherein the symptom is associated with allergic asthma.
25. (Previously Presented) The method of claim 24, wherein the symptom associated with allergic asthma comprises wheezing, shortness of breath, chest tightness, cough, and sputum production, airflow restriction, airway edema or mucus production.
26. (Previously Presented) The method of claim 24, wherein the symptom associated with allergic asthma comprises eosinophil infiltration of lung, leukocyte infiltration of

lung, hyperplasia of mucus secreting epithelium, inflammatory lesion of lung, goblet cell hyperplasia, or increased Th2 cytokine production.

27. (Previously Presented) The method of claim 26, wherein the cytokine comprises an interleukin (IL).

28. (Previously Presented) The method of claim 27, wherein the interleukin (IL) comprises IL-4, IL-5, IL-9, IL-13 or IL-16.

29. (Currently Amended) A method of reducing or inhibiting one or more symptoms associated with a secondary or subsequent immune response to an antigen in pulmonary tissue or respiratory tract of a mammalian subject, comprising administering an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby reducing or inhibiting one or more symptoms associated with a secondary or subsequent immune response in pulmonary tissue or respiratory tract of the mammalian subject.

30. (Previously Presented) The method of claim 29, wherein said response is mediated at least in part by OX40 or OX40 ligand (OX40L).

31. (Currently Amended) A method of reducing or inhibiting one or more symptoms in pulmonary tissue, respiratory tract, spleen, lymph node or lymph vessel associated with a secondary or subsequent immune response to an antigen in a mammalian subject, wherein said response is mediated at least in part by OX40 mediated T cell response, comprising administering an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 mediated T cell response, thereby reducing or inhibiting one or more symptoms in the pulmonary tissue, respiratory tract, spleen, lymph node or lymph vessel associated with a secondary or subsequent immune response in the mammalian subject.

32. (Cancel)

33. (Previously Presented) The method of claim 31, wherein the mammalian subject is a human.

34. (Previously Presented) A method of reducing or inhibiting one or more symptoms of asthma, comprising administering to a mammalian subject having or suspected of having asthma an amount of an antibody that specifically binds to OX40L sufficient

to reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby reducing or inhibiting one or more symptoms of asthma in the mammalian subject.

35. (Previously Presented) A method of reducing or inhibiting one or more symptoms of asthma, comprising administering to a mammalian subject having or suspected of having asthma an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 mediated T cell response, thereby reducing or inhibiting one or more symptoms of asthma in the mammalian subject.
36. (Previously Presented) A method of treating asthma, comprising administering to a mammalian subject having asthma an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby treating asthma in the mammalian subject.
37. (Previously Presented) A method of treating asthma, comprising administering to a mammalian subject having asthma an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 mediated T cell response, thereby treating asthma in the mammalian subject.
38. (Previously Presented) The method of any of claims 34 to 37, wherein the antibody that specifically binds to OX40L is administered via inhalation.
39. (Previously Presented) The method of any of claims 34 to 37, wherein the antibody that specifically binds to OX40L is formulated into an aerosol.
40. (Withdrawn) A method of identifying an agent that reduces or inhibits a recall immune response, comprising:
    a. providing a test agent that reduces or inhibits signaling, expression or activity of OX40 or OX40 ligand (OX40L);
    b. measuring a recall immune response in the presence of the test agent, wherein a reduction or inhibition of a recall response identifies the test agent as an agent that reduces or inhibits a recall immune response.
41. (Withdrawn) A method of identifying an agent that reduces or inhibits a recall immune response, comprising:
    a. providing a test agent that binds to OX40 or OX40 ligand (OX40L);

b. measuring a recall immune response in the presence of the test agent, wherein a reduction or inhibition of a recall response identifies the test agent as an agent that reduces or inhibits a recall immune response.

42. (Withdrawn) A method of identifying an agent that alleviates or ameliorates a symptom associated with a secondary or subsequent immune response to an antigen, comprising:

a. providing a test agent that reduces or inhibits signaling, expression or activity of OX40 or OX40 ligand (OX40L);

b. measuring a symptom associated with a secondary or subsequent immune response to an antigen in the presence of the test agent, wherein a reduction or inhibition of a symptom associated with a secondary or subsequent immune response to an antigen identifies the test agent as an agent that alleviates or ameliorates a symptom associated with a secondary or subsequent immune response to an antigen.

43. (Withdrawn) A method of identifying an agent that alleviates or ameliorates a symptom associated with a secondary or subsequent immune response to an antigen, comprising:

a. providing a test agent that binds to OX40 or OX40 ligand (OX40L);

b. measuring a symptom associated with a secondary or subsequent immune response to an antigen in the presence of the test agent, wherein a reduction or inhibition of a symptom associated with a secondary or subsequent immune response to an antigen identifies the test agent as an agent that alleviates or ameliorates a symptom associated with a secondary or subsequent immune response to an antigen.

44. (Withdrawn) The method of claims 40 to 43, wherein the recall immune response is mediated at least in part by OX40 signaling.

45. (Withdrawn) The method of claim 40 to 43, wherein the test agent comprises an antibody or a modified OX40 or OX40L.

46. (Withdrawn) The method of claim 45, wherein the modified OX40 or OX40L comprises a subsequence, variant sequence, chimeric sequence or dominant negative sequence.
47. (Withdrawn) The method of claims 40 to 43, wherein the test agent comprises a human or humanized antibody.
48. (Withdrawn) The method of claims 40 to 43, wherein the test agent comprises an antisense nucleic acid molecule or RNAi that binds to OX40 or OX40L DNA or RNA.
49. (Withdrawn) The method of claims 40 to 43, wherein the test agent comprises a cytokine.
50. (Withdrawn) The method of claims 40 to 43, wherein recall immune response or symptom occurs *in vivo*.
51. (Withdrawn) The method of claims 40 to 43, wherein recall immune response or symptom occurs in a mammal.
52. (Withdrawn) The method of claims 42 or 43, wherein the symptom comprises swelling, enlargement, mucus production, rash, eosinophil infiltration, leukocyte or lymphocyte infiltration, cytokine or chemokine production, hyperplasia, inflammatory lesions or necrosis.
53. (Withdrawn) A method of identifying an agent that alleviates or ameliorates a symptom associated with asthma, comprising:
    a. providing a test agent that reduces or inhibits signaling, expression or activity of OX40 or OX40 ligand (OX40L);
    b. measuring a symptom associated with asthma in the presence of the test agent, wherein a reduction or inhibition of a symptom associated with asthma identifies the test agent as an agent that alleviates or ameliorates a symptom associated with asthma.
54. (Withdrawn) A method of identifying an agent that alleviates or ameliorates a symptom associated with asthma, comprising:
    a. providing a test agent that binds to OX40 or OX40 ligand (OX40L);

b. measuring a symptom associated with asthma in the presence of the test agent, wherein a reduction or inhibition of a symptom associated with asthma identifies the test agent as an agent that alleviates or ameliorates a symptom associated with asthma.

55. (Withdrawn) The method of claims 53 or 54, wherein the symptom comprises swelling, enlargement, mucus production, rash, eosinophil infiltration, leukocyte or lymphocyte infiltration, cytokine or chemokine production, hyperplasia, inflammatory lesions or necrosis.

56. (Withdrawn) The method of claims 53 or 54, wherein the symptom is associated with allergic asthma.

57. (Withdrawn) The method of claim 56, wherein the symptom comprises wheezing, shortness of breath, chest tightness, cough, and sputum production, airflow restriction, airway edema or mucus production.

58. (Withdrawn) The method of claim 56, wherein the symptom comprises eosinophil infiltration of lung, leukocyte infiltration of lung, hyperplasia of mucus secreting epithelium, inflammatory lesion of lung, goblet cell hyperplasia, or increased Th2 cytokine production

59. (Withdrawn) The method of claim 56, wherein the asthma is mediated at least in part by OX40 signaling.

60. (Withdrawn) The method of claim 53 or 54, wherein the test agent comprises an antibody or a modified OX40 or OX40L.

61. (Withdrawn) The method of claim 60, wherein the modified OX40 or OX40L comprises a subsequence, variant sequence, chimeric sequence or dominant negative sequence.

62. (Withdrawn) The method of claims 53 or 54, wherein the test agent comprises a human or humanized antibody.

63. (Withdrawn) The method of claims 53 or 54, wherein the test agent comprises an antisense nucleic acid molecule or RNAi that binds to OX40 or OX40L DNA or RNA.

64. (Withdrawn) The method of claims 53 or 54, wherein the test agent comprises a cytokine.

65. (Withdrawn) The method of claims 53 or 54, wherein the symptom occurs *in vivo*.

66. (Withdrawn) The method of claims 53 or 54, wherein the symptom occurs in a mammal.

67. (Withdrawn) A method of identifying an agent for treating asthma, comprising:
    a. providing a test agent that reduces or inhibits signaling, expression or activity of OX40 or OX40 ligand (OX40L);
    b. measuring asthma in the presence of the test agent, wherein alleviating or ameliorating asthma identifies the test agent as an agent for treating asthma.

68. (Withdrawn) A method of identifying an agent for treating asthma, comprising:
    a. providing a test agent that binds to OX40 or OX40 ligand (OX40L);
    b. measuring asthma in the presence of the test agent, wherein alleviating or ameliorating asthma identifies the test agent as an agent for treating asthma.

69. (Previously Presented) A method of alleviating or ameliorating a symptom associated with asthma caused at least in part by exposure to an antigen, comprising administering to a mammalian subject having asthma an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby alleviating or ameliorating a symptom associated with asthma in the mammalian subject.

70. (Previously Presented) A method of inhibiting or reducing a recall response associated with asthma caused at least in part by exposure to an antigen, comprising administering to a mammalian subject having asthma an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby inhibiting or reducing a recall response associated with asthma in the mammalian subject.

71. (Previously Presented) A method of treating asthma in a mammalian subject having asthma caused at least in part by exposure to an antigen, comprising administering to the subject an amount of an antibody that specifically binds to OX40L sufficient to

reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby treating asthma in the mammalian subject.

72. (Previously Presented) A method of reducing or inhibiting a recall response associated with asthma in a mammalian subject having asthma caused at least in part by exposure to an antigen, comprising administering to the subject an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby reducing or inhibiting a recall response associated with asthma in the mammalian subject.

73. (Currently Amended) A method of decreasing inflammation in pulmonary tissue or respiratory tract associated with a memory response, comprising administering to a mammalian subject having inflammation in pulmonary tissue or respiratory tract associated with a memory response an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby decreasing inflammation in pulmonary tissue or respiratory tract associated with a memory response in the mammalian subject.

74. (Cancel)

75. (Previously Presented) A method of decreasing a T cell inflammatory memory response in pulmonary tissue, respiratory tract, spleen, lymph node or lymph vessel of a mammalian subject, comprising administering to a mammalian subject having inflammation associated with a memory response in pulmonary tissue, respiratory tract, spleen, lymph node or lymph vessel an amount of an antibody that specifically binds to OX40L sufficient to reduce or inhibit OX40 or OX40L signaling, expression or activity, thereby decreasing a T cell inflammatory memory response in pulmonary tissue, respiratory tract, spleen, lymph node or lymph vessel of a mammalian subject.

76. (Cancel)